# Chapter 1
# Positivism and Realism
## *Moritz Schlick*

### *1. Preliminary Questions*

Every philosophical movement is defined by the principles that it regards as fundamental, and to which it constantly recurs in its arguments. But in the course of historical development, the principles are apt not to remain unaltered, whether it be that they acquire new formulations, and come to be extended or restricted, or that even their meaning gradually undergoes noticeable modifications. At some point the question then arises as to whether we should still speak at all of the development of a single movement, and retain its old name, or whether a new movement has not in fact arisen.

If, alongside the evolved outlook, an 'orthodox' movement still continues to exist, which clings to the first principles in their original form and meaning, then sooner or later some terminological distinction of the old from the new will automatically come about. But where this is not clearly so, and where, on the contrary, the most diverse and perhaps contradictory formulations and interpretations of the principles are bandied about among the various adherents of a 'movement', then a hubbub arises, whose result is that supporters and opponents of the view are found talking at cross purposes; everyone seeks out from the principles what he can specifically use for the defense of his own view, and everything ends in hopeless misunderstandings and obscurities. They only disappear when the various principles are separated from each other and tested individually for meaning and truth on their own account, in which process we do best, at first, to disregard entirely the contexts in which they have historically arisen, and the names that have been given to them.

I should like to apply these considerations to the modes of thought grouped under the name of 'positivism'. From the moment when Auguste Comte invented the term, up to the present day, they have undergone a development which provides a good-example of what has just been said. I do this, however, not with the historical purpose of establishing, say, a rigorous concept of positivism in its historical manifestation, but rather in order to contribute to a real settlement of the controversy currently carried on about certain principles which rank as positivist axioms. Such a settlement is all the dearer to me, in that I subscribe to some of these principles myself. My only concern here is to make the meaning of these principles as clear as possible; whether, after such clarification, people are still minded to impute them to 'positivism' or not, is a question of wholly subordinate importance.

If every view is to be labelled positivist, which denies the possibility of metaphysics, then nothing can be said against it as a mere definition, and in *this* sense I would have

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to declare myself a strict positivist. But this, of course, is true only if we presuppose a particular definition of 'metaphysics'. What the definition of metaphysics is, that would have to be made basic here, does not need to interest us at present; but it scarcely accords with the formulations that are mostly current in the literature of philosophy; and closer definitions of positivism that adhere to such formulations lead straight into obscurities and difficulties.

For if, say—as has mostly been done from time immemorial—we assert that metaphysics is the doctrine of 'true being', of 'reality in itself', or of 'transcendent being', this talk of true, real being obviously presupposes that a non-true, lesser or apparent being stands opposed to it, as has indeed been assumed by all metaphysicians since the days of Plato and the Eleatics. This seeming being is said to be the realm of 'appearances', and while the true transcendent reality is held to be accessible with difficulty only to the efforts of the metaphysician, the special sciences are exclusively concerned with appearances, and the latter are also perfectly accessible to scientific knowledge. The contrast in the knowability of the two 'kinds of being' is then traced to the fact that appearances are 'given' and immediately known to us, whereas metaphysical reality has had to be inferred from them only by a circuitous route. With this we seem to have arrived at a fundamental concept of the positivists, for they, too, are always talking of the 'given', and state their basic principle mostly by saying that, like the scientist, the philosopher must abide throughout in the given, that an advance beyond it, such as the metaphysician attempts, is impossible or absurd.

It is natural, therefore, to take the given of positivism to be simply identical with the metaphysician's appearances, and to believe that positivism is at bottom a metaphysics from which the transcendent has been omitted or struck out; and such a view may often enough have inspired the arguments of positivists, no less than those of their adversaries. But with this we are already on the road to dangerous errors.

This very term 'the given' is already an occasion for grave misunderstandings. 'To give', of course, normally signifies a three-termed relation: it presupposes in the first place someone who gives, secondly someone given to, and thirdly something given. For the metaphysician this is quite in order, for the giver is transcendent reality, the receiver is the knowing consciousness, and the latter appropriates what is given to it as its 'content'. But the positivist, from the outset, will obviously have nothing to do with such notions; the given, for him, is to be merely a term for what is simplest and no longer open to question. Whatever term we may choose, indeed, it will be liable to occasion misconceptions; if we talk of 'acquaintance' ['*Erlebnis*'], we seem to presuppose the distinction between he who is acquainted and what he is acquainted with; in employing the term 'content of consciousness', we appear to burden ourselves with a similar distinction, and also with the complex concept of 'consciousness', first excogitated, at all events, by philosophical thought.

But even apart from such difficulties, it is possibly still not yet clear what is actually meant by the given. Does it merely include such 'qualities' as 'blue', 'hot' and 'pain', or also, for example, relations between them, or the order they are in? Is the similarity of two qualities 'given' in the same sense as the qualities themselves? And if the given is somehow elaborated or interpreted or judged, is this elaboration or judgement not also in turn a given in some sense?

It is not obscurities of this type, however, which give occasion to present-day controversies; it is the question of 'reality' that first tosses among the parties the apple of discord.

If positivism's rejection of metaphysics amounts to a denial of transcendent reality, it seems the most natural thing in the world to conclude that in that case it attributes

reality only to non-transcendent being. The main principle of the positivist then seems to run: 'Only the given is real'. Anyone who takes pleasure in plays upon words could even make use of a peculiarity of the German language in order to lend this proposition the air of being a self-evident tautology, by formulating it as: *'Es gibt nur das Gegebene'* [Only the given exists].

What are we to say of this principle?

Many positivists may have stated and upheld it (particularly those, perhaps, who have treated physical objects as 'mere logical constructions' or as 'mere auxiliary concepts'), and others have had it imputed to them by opponents—but we are obliged to say that anyone who asserts this principle thereby attempts to advance a claim that is metaphysical in the same sense, and to the same degree, as the seemingly opposite contention, that 'There is a transcendent reality'.

The problem at issue here is obviously the so-called question as to the reality of the external world, and on this there seem to be two parties: that of 'realism', which believes in the reality of the external world, and that of 'positivism', which does not believe in this. I am convinced that in fact it is quite absurd to set two views in contrast to one another in this fashion, since (as with all metaphysical propositions) both parties, at bottom, have not the least notion of what they are trying to say. But before explaining this I should like to show how the most natural interpretations of the proposition 'only the given is real' in fact lead at once to familiar metaphysical views.

As a question about the existence of the 'external' world, the problem can make its appearance only through drawing a distinction of some kind between inner and outer, and this happens inasmuch and insofar as the given is regarded as a 'content' of consciousness, as belonging to a subject (or several) to *whom* it is given. The immediate data are thereby credited with a conscious character, the character of presentations or ideas; and the proposition in question would then assert that *all* reality possesses this character: no being outside consciousness. But this is nothing else but the basic principle of meta-physical *idealism*. If the philosopher thinks he can speak only of what is given to himself, we are confronted with a solipsistic metaphysics; but if he thinks he may assume that the given is distributed to many subjects, we then have an idealism of the Berkeleyan type.

On this interpretation, positivism would thus be simply identical with the older idealist metaphysics. But since its founders were certainly seeking something quite other than a renewal of that idealism, this view must be rejected as inconsistent with the antimetaphysical purpose of positivism. Idealism and positivism do not go together. The positivist Ernst Laas[1] devoted a work in several volumes to demonstrating the irreconcilable opposition that exists between them in all areas; and if his pupil Hans Vaihinger gave his *Philosophy of As If* the subtitle of an 'idealist positivism', that is just one of the contradictions that infect this work. Ernst Mach has particularly emphasized that his own positivism has evolved in a direction away from the Berkeleyan metaphysics; he and Avenarius laid much stress on not construing the given as a content of consciousness, and endeavored to keep this notion out of their philosophy altogether.

In view of the uncertainty in the positivists' own camp, it is not surprising if the 'realist' ignores the distinctions we have mentioned and directs his arguments against the thesis that 'there are only contents of consciousness', or that 'there is only an internal world'. But this proposition belongs to the idealist metaphysics; it has no place in an antimetaphysical positivism, and these counter-arguments do not tell against such a view.

The 'realist' can, indeed, take the line that it is utterly inevitable that the given

should be regarded as a content of consciousness, as subjective, or mental—or whatever the term may be; and he would consider the attempts of Avenarius and Mach to construe the given as neutral, and to do away with the inner-outer distinction, as a failure, and would think a theory without metaphysics to be simply impossible. But this line of argument is more rarely encountered. And whatever the position there, we are dealing in any case with a quarrel about nothing, since the 'problem of the reality of the external world' is a meaningless pseudo-problem. It is now time to make this clear.

## *II. On the Meaning of Statements*

It is the proper business of philosophy to seek for and clarify the *meaning* of claims and questions. The chaotic state in which philosophy has found itself throughout the greatest part of its history is traceable to the unlucky fact that firstly it has accepted certain formulations with far too much naivete, as genuine problems, without first carefully testing whether they really possessed a sound meaning; and secondly, that it has believed the answers to certain questions to be discoverable by particular philosophical methods that differ from those of the special sciences. By philosophical analysis we are unable to decide of anything whether it is real; we can only determine what it *means* to claim that it is real; and whether this is then the case or not can only be decided by the ordinary methods of daily life and science, namely by *experience*. So here the task is to get clear whether a meaning can be attached to the question about the reality of the 'external world'.

When are we certain, in general, that the meaning of a question is clear to us? Obviously then, and only then, when we are in a position to state quite accurately the circumstances under which it can be answered in the affirmative—or those under which it would have to receive a negative answer. By these statements, and these alone, is the meaning of the question defined.

It is the first step in every kind of philosophizing, and the basis of all reflection, to realize that it is absolutely impossible to give the meaning of any claim save by describing the state-of-affairs that must obtain if the claim is to be true. If it does not obtain, then the claim is false. The meaning of a proposition obviously consists in this alone, that it expresses a particular state-of-affairs. This state-of-affairs must actually be pointed out, in order to give the meaning of the proposition. One may say, indeed, that the proposition itself already gives this state-of-affairs; but only, of course, for one who *understands* it. But when do I understand a proposition? When I know the meaning of the words that occur in it? This can be explained by definitions. But in the definitions new words occur, whose meaning I also have to know in turn. The business of defining cannot go on indefinitely, so eventually we come to words whose meaning cannot again be described in a proposition; it has to be pointed out directly; the meaning of the word must ultimately be *shown*, it has to be *given*. This takes place through an act of pointing or showing, and what is shown must be given, since otherwise it cannot be pointed out to me.

In order, therefore, to find the meaning of a proposition, we have to transform it by introduction of successive definitions, until finally only such words appear in it as can no longer be defined, but whose meanings can only be indicated directly. The criterion for the truth or falsity of the proposition then consists in this, that under specific conditions (stated in the definitions) certain data are, or are not, present. Once this is established, I have established everything that the proposition was talking about, and hence I know its meaning. If I am *not* capable, in principle, of verifying a

proposition, that is, if I have absolutely no knowledge of how I should go about it, what I would have to do, in order to ascertain its truth or falsity, then I obviously have no idea at all of what the proposition is actually saying; for then I would be in no position to interpret the proposition, in proceeding, by means of the definitions, from its wording to possible data, since insofar as I *am* in a position to do this, I can also, by this very fact, point out the road to verification in principle (even though, for practical reasons, I may often be unable actually to tread it). To state the circumstances under which a proposition is true is *the same* as stating its meaning, and nothing else.

And these 'circumstances', as we have now seen, have ultimately to be found in the given. Different circumstances imply differences in the given. The *meaning* of every proposition is ultimately determined by the given alone, and by absolutely nothing else.

I do not know if this view should be described as positivistic; though I should like to believe that it has been in the background of all efforts that go under this name in the history of philosophy, whether, indeed, it has been clearly formulated or not. It may well be assumed to constitute the true core and driving force of many quite erroneous formulations that we find among the positivists.

Anyone who has once attained the insight, that the meaning of any statement can be determined only by the given, no longer even grasps the *possibility of another* opinion, for he sees that he has merely discerned the conditions under which opinions can be formulated at all. It would thus be quite erroneous as well to perceive in the foregoing any sort of 'theory of meaning' (in Anglo-Saxon countries the view outlined, that the meaning of a statement is wholly and solely determined by its verification in the given, is commonly called the 'experimental theory of meaning'); that which precedes all formation of theories cannot itself be a theory.

The content of our thesis is in fact entirely trivial (and that is precisely why it can give so much insight); it tells us that a statement only has a specifiable meaning if it makes some testable difference whether it is true or false. A proposition for which the world looks exactly the same when it is true as it does when it is false, in fact says nothing whatever about the world; it is empty, it conveys nothing, I can specify no meaning for it. But a *testable* difference is present only if there is a difference in the given, for to be testable certainly means nothing else but 'demonstrable in the given'.

It is self-evident that the term 'testability' is intended only *in principle*, for the meaning of a proposition does not, of course, depend on whether the circumstances under which we actually find ourselves at a given moment allow of, or prevent, actual verification. The statement that 'there are 10,000 ft mountains on the far side of the moon' is beyond doubt absolutely meaningful, although we lack the technical means for verifying it. And it would remain just as meaningful even if we knew for certain, on scientific grounds of some kind, that no man would ever reach the far side of the moon. Verification always remains *thinkable*, we are always able to say what sort of data we should have to encounter, in order to effect the decision; it is *logically* possible, whatever the situation may be as regards the actual possibility of doing it. And that is all that is at issue here.

But if someone advanced the claim, that within every electron there is a nucleus which is always present, but produces absolutely no effects outside, so that its existence in nature is discernible in no way whatever—then this would be a meaningless claim. For we should at once have to ask the fabricator of this hypothesis: What, then, do you actually *mean* by the presence of this 'nucleus'?, and he could only reply: I mean that something exists there in the electron. We would then go on to ask: What is that supposed to mean? How would it be if this something did not exist? And he would

have to reply: In that case, everything else would be exactly as before. For according to his claim, no effects of any kind proceed from this something, and everything observable would remain absolutely unaltered, the realm of the given would not be touched. We would judge that he had not succeeded in conveying to us the meaning of his hypothesis, and that it is therefore vacuous. In this case the impossibility of verification is actually not a factual, but a *logical* impossibility, since the claim that this nucleus is totally without effects rules out, *in principle*, the possibility of deciding by differences in the given.

Nor can it be supposed that the distinction between essential impossibility of verification and a merely factual and empirical impossibility is not sharp, and therefore often hard to draw; for the 'essential' impossibility is simply a logical one, which differs from the empirical, not by degrees, but absolutely. What is merely empirically impossible still remains *thinkable*; but what is logically impossible is contradictory, and cannot, therefore, be thought at all. We also find, in fact, that with sure instinct, this distinction is always very clearly sensed in the practice of scientific thinking. The physicists would be the first to reject the claim in our example, concerning the eternally hidden nucleus of the electron, with the criticism that this is no hypothesis whatever, but an empty play with words. And on the question of the meaning of their statements, successful students of reality have at all times adopted the standpoint here outlined, in that they acted upon it, even though mostly unawares.

Thus our position does not represent anything strange and peculiar for science, but in a certain sense has always been a self-evident thing. It could not possibly have been otherwise, because only from this standpoint can the truth of a statement be tested at all; since all scientific activity consists in testing the truth of statements, it constantly acknowledges the correctness of our viewpoint by what it does.

If express confirmation be still needed, it is to be found with the utmost clarity at critical points in the development of science, where research is compelled to bring its self-evident presuppositions to consciousness. This situation occurs where difficulties of principle give rise to the suspicion that something may not be in order about these presuppositions. The most celebrated example of this kind, which will forever remain notable, is Einstein's analysis of the concept of time, which consists in nothing else whatever but a statement of the *meaning* of our assertions about the simultaneity of spatially separated events. Einstein told the physicists (and philosophers): you must first say what you *mean* by simultaneity, and this you can only do by showing how the statement 'two events are simultaneous' is verified. But in so doing you have then also established the meaning fully and *without remainder*. What is true of the simultaneity concept holds good of every other; every statement has a meaning only insofar as it can be verified; it only *signifies* what is verified and absolutely *nothing* beyond this. Were someone to maintain that it contains more, he would have to be able to say what this more is, and for this he must again say what in the world would be different if he was wrong; but he can say nothing of the kind, for by previous assumption all observable differences have already been utilized in the verification.

In the simultaneity example the analysis of meaning, as is right and proper for the physicist, is carried only so far that the decision about the truth or falsity of a temporal statement resides in the occurrence or non-occurrence of a certain physical event (for example, the coincidence of a pointer with a scale-mark); but it is clear that one may go on to ask: What, then, does it *mean* to claim that the pointer indicates a particular mark on the scale? And the answer to this can be nothing else whatever but a reference to the occurrence of certain data, or, as we are wont to say, of certain 'sensations'. This is also generally admitted, and especially by physicists. "For in the end, positivism will

always be right in this", says Planck,[2] "that there is no other source of knowledge but sensations", and this statement obviously means that the truth or falsity of a physical assertion is quite solely dependent on the occurrence of certain sensations (which are a special class of the given).

But now there will always be many inclined to say that this grants only that the truth of a physical statement can be tested in absolutely no other way save by the occurrence of certain sensations, but that this, however, is a different thing from claiming that the very *meaning* of the statement is thereby exhaustively presented. The latter would have to be denied, for a proposition can contain *more* than allows of verification; that the pointer stands at a certain mark on the scale means *more* than the presence of certain sensations (namely, the 'presence of a certain state-of-affairs in the external world').

Of this denial of the identity of meaning and verification the following needs to be said:

1. Such a denial is to be found among physicists only where they leave the proper territory of physical statements and begin to philosophize. (In physics, obviously, we find only statements about the nature or behaviour of things and processes; an express assertion of their 'reality' is needless, since it is always presupposed.) In his own territory the physicist fully acknowledges the correctness of our point of view. We have already mentioned this earlier, and have since elucidated it by the example of the concept of simultaneity. There are, indeed, many philosophers who say: Only relative simultaneity can admittedly be established, but from this it does not follow that there is no such thing as absolute simultaneity, and we continue, as before, to believe in it! There is no way of demonstrating the falsity of this claim; but the great majority of physicists are rightly of the opinion that it is meaningless. It must be emphatically stressed, however, that in both cases we are concerned with exactly the same situation. It makes absolutely no difference, in principle, whether I ask: Does the statement 'two events are simultaneous' mean more than can be verified? Or whether I ask: Does the statement 'the pointer indicates the fifth scale-mark' signify more than can be verified? The physicist who treats the two cases differently is guilty of an inconsistency. He will justify himself by arguing that in the second case, where the 'reality of the external world' is concerned, there is philosophically far more at stake. This argument is too vague for us to be able to assign it any weight, but we shall shortly examine whether anything lies behind it.

2. It is perfectly true that every statement about a physical object or event says *more* than is verified, say, by the once-and-for-all occurrence of an experience. It is presupposed, rather, that this experience took place under quite specific conditions, whose fulfilment can, of course, be tested in turn only by something given; and it is further presupposed that still other and further verifications (after-tests, confirmations) are always possible, which themselves of course reduce to manifestations of some kind in the given. In this way we can and must make allowance for sense-deceptions and errors, and it is easy to see how we are to classify the cases in which we would say that the observer had merely dreamt that the pointer indicated a certain mark, or that he had not observed carefully, and so on. Blondlot's claims about the N-rays that he thought he had discovered were intended, after all, to say more than that he had had certain visual sensations under certain circumstances, and hence they could also be refuted.[3] Strictly speaking, the meaning of a proposition about physical objects is exhausted only by the provision of indefinitely many possible verifications, and the consequence of this is, that in the last resort such a proposition can never be proved absolutely true. It is generally acknowledged, indeed, that even the most assured

propositions of science have always to be regarded merely as hypotheses, which remain open to further definition and improvement. This has certain consequences for the logical nature of such propositions, but they do not concern us here.

Once again: the meaning of a physical statement is never defined by a single isolated verification; it must be conceived, rather, as of the form: If circumstances $x$ are given, data $y$ occur, where indefinitely many circumstances can be substituted for $x$, and the proposition remains correct on every occasion (this also holds, even if the statement refers to a once-and-for-all occurrence—a historical event—for such an event always has innumerable consequences whose occurrence can be verified). Thus the meaning of every physical statement ultimately lies always in an endless chain of data; the individual datum as such is of no interest in this connection. So if a positivist should ever have said that the individual objects of science are simply the given experiences themselves, he would certainly have been quite wrong; what every scientist seeks, and seeks alone, are rather the rules which govern the connection of experiences, and by which they can be predicted. Nobody denies that the sole verification of natural laws consists in the fact that they provide correct predictions of this type. The oft-heard objection, that the immediately given, which at most can be the object of psychology, is now falsely to be made into an object of physics, is thereby robbed of its force.

3. The most important thing to say, however, is this: If anyone thinks that the meaning of a proposition is not in fact exhausted by what can be verified in the given, but extends far beyond that, then he must at least admit that this surplus of meaning is utterly indescribable, unstatable in any way, and inexpressible by any language. For let him just try to state it! So far as he succeeds in *communicating* something of the meaning, he will find that the communication consists in the very fact that he has pointed out some circumstances that can serve for verification in the given, and he thereby finds our view confirmed. Or else he may believe, indeed, that he has stated a meaning, but closer examination shows that his words only signify that there is still 'something' there, though nothing whatever is said about its nature. In that case he has really communicated nothing; his claim is meaningless, for one cannot maintain the existence of something without saying *of what* one is claiming the existence. This can be brought out by reference to our example of the essentially indemonstrable 'nucleus of the electron'; but for the sake of clarity we shall analyze yet another example of a very fundamental kind.

I am looking at two pieces of green paper, and establish that they have the same color. The proposition asserting the likeness of colour is verified, *inter alia*, by the fact that I twice experience the same color at the same time. The statement 'two patches of the same color are now present' can no longer be reduced to others; it is verified by the fact that it describes the given. It has a good meaning: by virtue of the significance of the words occurring in the statement, this meaning is simply the existence of this similarity of color; by virtue of linguistic usage, the sentence expresses precisely this experience. I now show one of the two pieces of paper to a second observer, and pose the question: Does he see the green just as I do? Is his color-experience the *same* as mine? This case is *essentially* different from the one just examined. While there the statement was verifiable through the occurrence of an experience of similarity, a brief consideration shows that here such a verification is absolutely impossible. Of course (if he is not color-blind), the second observer also calls the paper *green*; and if I now describe this green to him more closely, by saying that it is more yellowish than this wallpaper, more bluish than this billiard-cloth, darker than this plant, and so on, he will also find it so each time, that is, he will agree with my statements. But even though all

his judgments about colors were to agree entirely with mine, I can obviously never conclude from this that he experiences 'the same quality'. It might be that on looking at the green paper he has an experience that I should call 'red'; that conversely, in the cases where I see red, he experiences green, but of course calls it 'red', and so forth. It might even be, indeed, that my color sensations are matched in him by experiences of sound or data of some other kind; yet it would be impossible in principle ever to discover these differences between his experience and mine. We would agree completely, and could never differ about our surroundings, so long only (and this is absolutely the only precondition that has to be made) as the inner *order* of his experiences agrees with that of mine. Their 'quality' does not come into it at all; all that is required is that they can be brought into a *system* in the same fashion.

All this is doubtless uncontested, and philosophers have pointed out this situation often enough. They have mostly added, however, that such subjective differences are indeed theoretically possible, and that this possibility is in principle very interesting, but that nevertheless it is 'in the highest degree probable' that the observer and I actually experience the *same* green. We, however, must say: The claim that different individuals experierice the *same* sensation has this verifiable meaning alone, that all their statements (and of course all their other behavior as well) display certain agreements; hence the claim *means* nothing else whatever but this. It is merely another mode of expression if we say that it is a question of the likeness of two systems of order. The proposition that two experiences of different subjects not only occupy the same place in the order of a system, but *beyond that* are *also* qualitatively like each other, has no meaning for us. It is not false, be it noted, but meaningless: we have no idea at all what it is supposed to signify.

Experience shows that for the majority of people it is very difficult to agree with this. One has to grasp that we are really concerned here with a *logical* impossibility of verification. To speak of the likeness of two data in *the same* consciousness has an acceptable meaning; it can be verified through an immediate experience. But if we wish to talk of the likeness of two data in *different* consciousnesses, that is a new concept; it has to be defined anew, for propositions in which it occurs are no longer verifiable in the old fashion. The new definition is, in fact, the likeness of all reactions of the two individuals; no other can be found. The majority believe, indeed, that no definition is required here; we know straight off what 'like' means, and the meaning is in both cases the same. But in order to recognize this as an error, we have only to recall the concept of simultaneity, where the situation is precisely analogous. To the concept of 'simultaneity at the same place' there corresponds here the concept of 'likeness of experiences in the same individual'; and to 'simultaneity at different places' there corresponds here the 'likeness of experiences in different individuals'. The second is in each case something new in comparison with the first, and must be specially defined. A directly experienceable quality can no more be pointed out for the likeness of two greens in different consciousnesses than for simultaneity at different places; both must be defined by way of a system of relations.

Many philosophers have tried to overcome the difficulty that seemed to confront them here by all sorts of speculations and thought-experiments, in that they have spoken, say, of a universal consciousness (God) embracing all individuals, or have imagined that perhaps by an artificial linkage of the nerve-systems of two people the sensations of the one might be made accessible to the other and could be compared—but all this is useless, of course, since even by such fantastical methods it is in the end only contents of one and the same consciousness that are directly compared; but the

propositions of science have always to be regarded merely as hypotheses, which remain open to further definition and improvement. This has certain consequences for the logical nature of such propositions, but they do not concern us here.

Once again: the meaning of a physical statement is never defined by a single isolated verification; it must be conceived, rather, as of the form: If circumstances $x$ are given, data $y$ occur, where indefinitely many circumstances can be substituted for $x$, and the proposition remains correct on every occasion (this also holds, even if the statement refers to a once-and-for-all occurrence—a historical event—for such an event always has innumerable consequences whose occurrence can be verified). Thus the meaning of every physical statement ultimately lies always in an endless chain of data; the individual datum as such is of no interest in this connection. So if a positivist should ever have said that the individual objects of science are simply the given experiences themselves, he would certainly have been quite wrong; what every scientist seeks, and seeks alone, are rather the rules which govern the connection of experiences, and by which they can be predicted. Nobody denies that the sole verification of natural laws consists in the fact that they provide correct predictions of this type. The oft-heard objection, that the immediately given, which at most can be the object of psychology, is now falsely to be made into an object of physics, is thereby robbed of its force.

3. The most important thing to say, however, is this: If anyone thinks that the meaning of a proposition is not in fact exhausted by what can be verified in the given, but extends far beyond that, then he must at least admit that this surplus of meaning is utterly indescribable, unstatable in any way, and inexpressible by any language. For let him just try to state it! So far as he succeeds in *communicating* something of the meaning, he will find that the communication consists in the very fact that he has pointed out some circumstances that can serve for verification in the given, and he thereby finds our view confirmed. Or else he may believe, indeed, that he has stated a meaning, but closer examination shows that his words only signify that there is still 'something' there, though nothing whatever is said about its nature. In that case he has really communicated nothing; his claim is meaningless, for one cannot maintain the existence of something without saying *of what* one is claiming the existence. This can be brought out by reference to our example of the essentially indemonstrable 'nucleus of the electron'; but for the sake of clarity we shall analyze yet another example of a very fundamental kind.

I am looking at two pieces of green paper, and establish that they have the same color. The proposition asserting the likeness of colour is verified, *inter alia*, by the fact that I twice experience the same color at the same time. The statement 'two patches of the same color are now present' can no longer be reduced to others; it is verified by the fact that it describes the given. It has a good meaning: by virtue of the significance of the words occurring in the statement, this meaning is simply the existence of this similarity of color; by virtue of linguistic usage, the sentence expresses precisely this experience. I now show one of the two pieces of paper to a second observer, and pose the question: Does he see the green just as I do? Is his color-experience the *same* as mine? This case is *essentially* different from the one just examined. While there the statement was verifiable through the occurrence of an experience of similarity, a brief consideration shows that here such a verification is absolutely impossible. Of course (if he is not color-blind), the second observer also calls the paper *green*; and if I now describe this green to him more closely, by saying that it is more yellowish than this wallpaper, more bluish than this billiard-cloth, darker than this plant, and so on, he will also find it so each time, that is, he will agree with my statements. But even though all

his judgments about colors were to agree entirely with mine, I can obviously never conclude from this that he experiences 'the same quality'. It might be that on looking at the green paper he has an experience that I should call 'red'; that conversely, in the cases where I see red, he experiences green, but of course calls it 'red', and so forth. It might even be, indeed, that my color sensations are matched in him by experiences of sound or data of some other kind; yet it would be impossible in principle ever to discover these differences between his experience and mine. We would agree completely, and could never differ about our surroundings, so long only (and this is absolutely the only precondition that has to be made) as the inner *order* of his experiences agrees with that of mine. Their 'quality' does not come into it at all; all that is required is that they can be brought into a *system* in the same fashion.

All this is doubtless uncontested, and philosophers have pointed out this situation often enough. They have mostly added, however, that such subjective differences are indeed theoretically possible, and that this possibility is in principle very interesting, but that nevertheless it is 'in the highest degree probable' that the observer and I actually experience the *same* green. We, however, must say: The claim that different individuals experierice the *same* sensation has this verifiable meaning alone, that all their statements (and of course all their other behavior as well) display certain agreements; hence the claim *means* nothing else whatever but this. It is merely another mode of expression if we say that it is a question of the likeness of two systems of order. The proposition that two experiences of different subjects not only occupy the same place in the order of a system, but *beyond that* are *also* qualitatively like each other, has no meaning for us. It is not false, be it noted, but meaningless: we have no idea at all what it is supposed to signify.

Experience shows that for the majority of people it is very difficult to agree with this. One has to grasp that we are really concerned here with a *logical* impossibility of verification. To speak of the likeness of two data in *the same* consciousness has an acceptable meaning; it can be verified through an immediate experience. But if we wish to talk of the likeness of two data in *different* consciousnesses, that is a new concept; it has to be defined anew, for propositions in which it occurs are no longer verifiable in the old fashion. The new definition is, in fact, the likeness of all reactions of the two individuals; no other can be found. The majority believe, indeed, that no definition is required here; we know straight off what 'like' means, and the meaning is in both cases the same. But in order to recognize this as an error, we have only to recall the concept of simultaneity, where the situation is precisely analogous. To the concept of 'simultaneity at the same place' there corresponds here the concept of 'likeness of experiences in the same individual'; and to 'simultaneity at different places' there corresponds here the 'likeness of experiences in different individuals'. The second is in each case something new in comparison with the first, and must be specially defined. A directly experienceable quality can no more be pointed out for the likeness of two greens in different consciousnesses than for simultaneity at different places; both must be defined by way of a system of relations.

Many philosophers have tried to overcome the difficulty that seemed to confront them here by all sorts of speculations and thought-experiments, in that they have spoken, say, of a universal consciousness (God) embracing all individuals, or have imagined that perhaps by an artificial linkage of the nerve-systems of two people the sensations of the one might be made accessible to the other and could be compared— but all this is useless, of course, since even by such fantastical methods it is in the end only contents of one and the same consciousness that are directly compared; but the

question is precisely whether a comparison is possible between qualities insofar as they belong to different consciousnesses, and *not* the same one.

It must be admitted, therefore, that a proposition about the likeness of the experiences of two different persons has no other *stateable* meaning save that of a certain agreement in their reactions. Now it is open to anyone to believe that such a proposition also possesses another, more direct meaning; but it is certain that this meaning is not verifiable, and that there can be no way at all of stating or pointing out what this meaning is supposed to be. From this it follows, however, that there is absolutely no way at all in which such a meaning could be made a topic of discussion; there could be absolutely no talk about it, and it can in no way enter into any language whereby we communicate with each other.

And what has, we hope, become clear from this example, is of quite general application. All we can understand in a proposition is what it conveys; but a meaning can be communicated only if it is verifiable. Since propositions are nothing else but a vehicle of communication, we can assign to their meaning only what can be communicated. For this reason I should insist that 'meaning' can never signify anything but 'stateable meaning'.

But even if someone insisted that there was a nonverifiable meaning, this would actually be of no consequence whatever; for in everything he says and asks, and in everything that we ask him and reply to him, *such* a meaning can never in any way come to light. In other words, if such a thing were to exist, all our utterances and arguments and modes of behavior would still remain totally untouched by it, whether it was a question of daily life, of ethical or aesthetic attitude, of science of any kind, or of philosophy. Everything would be exactly as though there were no unverifiable meaning, for insofar as anything was different, it would in fact be verifiable through this very difference.

That is a serious situation, and we must absolutely demand that it be taken seriously. One must guard above all things against confusing the present logical impossibility with an empirical incapacity, just as though some technical difficulties and human imperfection were to blame for the fact that only the verifiable can be expressed, and as though there were still some little backdoor through which an unstateable meaning could slip into the daylight and make itself noticeable in our speech and behavior! No! The incommunicability is an absolute one; anyone who believes in a nonverifiable meaning (or more accurately, we shall have to say, imagines he believes in this) must still confess that only *one* attitude remains in regard to it: absolute silence. It would be of no use either to him or us, however often he asserted: 'but there is a non-verifiable meaning', for this statement is itself devoid of meaning, and says nothing.

### *III. What Does 'Reality' Mean? What Does 'External World' Mean?*

We are now prepared to make application of the foregoing to the so-called problem of the reality of the external world.

Let us ask: What meaning has it, if the 'realist' says 'there is an external world'? or even: What meaning attaches to the claim (which the realist attributes to the positivist) 'there is no external world'?

To answer the question, it is necessary, of course, to clarify the significance of the words 'there is' and 'external world'. Let us begin with the first. 'There is *x*' amounts to saying '*x* is real' or '*x* is actual'. So what does it mean if we attribute actuality (or reality) to an object? It is an ancient and very important insight of logic or philosophy, that the proposition '*x* is actual' is totally different in kind from a proposition that attributes any

sort of *property* to $x$ (such as '$x$ is hard'). In other words, actuality, reality or existence is not a property. The statement 'the dollar in my pocket is round' has a totally different logical form from the statement 'the dollar in my pocket is actual'. In modern logic this distinction is expressed by an altogether different symbolism, but it had already been very sharply emphasized by Kant, who, as we know, in his critique of the so-alled ontological proof of God's existence had correctly found the error of this proof in the fact that existence was treated like a property there.

In daily life we very often have to speak of actuality or existence, and for that very reason it cannot be hard to discover the meaning of this talk. In a legal battle it often has to be established whether some document really exists, or whether this has merely been falsely claimed, say, by one of the parties; nor is it wholly unimportant to me, whether the dollar in my pocket is merely imaginary or actually real. Now everybody knows in what way such a reality-claim is verified, nor can there be the least doubt about it; the reality of the dollar is proved by this, and this alone, that by suitable manipulations I furnish myself certain tactual or visual sensations, on whose occurrence I am accustomed to say: this is a dollar. The same holds of the document, only there we should be content, on occasion, with certain statements by others claiming to have seen the document, that is, to have had perceptions of a quite specific kind. And the 'statements of others' again consist in certain acoustic, or—if they were written utterances—visual perceptions. There is need of no special controversy about the fact that the occurrence of certain sense-perceptions among the data *always* constitutes the sole criterion for propositions about the reality of a 'physical' object or event, in daily life no less than in the most refined assertions of science. That there are okapis in Africa can be established only by observing such animals. But it is not necessary that the object or event 'itself' should have to be perceived. We can imagine, for example, that the existence of a trans-Neptunian planet might be inferred by observation of perturbations with just as much certainty as by direct perception of a speck of light in the telescope. The reality of the atom provides another example, as does the back side of the moon.

It is of great importance to state that the occurrence of some one particular experience in verifying a reality-statement is often not recognized as such a verification, but that it is throughout a question of regularities, of law-like connections; in this way true verifications are distinguished from illusions and hallucinations. If we say of some event or object—which must be marked out by a description—that it is *real*, this means, then, that there is a quite specific connection between perceptions or other experiences, that under given circumstances certain data are presented. By this alone is it verified, and hence this is also its only stateable meaning.

This, too, was already formulated, in principle, by Kant, whom nobody will accuse of 'positivism'. Reality, for him, is a category, and if we apply it anywhere, and claim of an object that it is real, then all this asserts, in Kant's opinion, is that it belongs to a law-governed connection of perceptions.

It will be seen that for us (as for Kant; and the same must apply to any philosopher who is aware of his task) it is merely a matter of saying what is meant when we ascribe real existence to a thing in life or in science; it is in no sense a matter of correcting the claims of ordinary life or of research. I must confess that I should charge with folly and reject *a limine* every philosophical system that involved the claim that clouds and stars, mountains and the sea, were not actually real, that the 'physical world' did not exist, and that the chair against the wall ceases to be every time I turn my back on it. Nor do I seriously impute such a claim to any thinker. It would, for example, be undoubtedly a quite mistaken account of Berkeley's philosophy if his system were to

be understood in this fashion. He, too, in no way denied the reality of the physical world, but merely sought to explain what we mean when we attribute reality to it. Anyone who says here that unperceived things are ideas in the mind of God is not in fact denying their existence, but is seeking, rather, to understand it. Even John Stuart Mill was not wanting to deny the reality of physical objects, but rather to explain it, when he declared them to be 'permanent possibilities of sensation', although I do consider his mode of expression to have been very unsuitably chosen.

So if 'positivism' is understood to mean a view that denies reality to bodies, I should simply have to declare it absurd; but I do not believe that such an interpretation of positivist opinions, at least as regards their competent exponents, would be historically just. Yet, however that may be, we are concerned only with the issue itself. And on this we have established as follows: our principle, that the question about the meaning of a proposition is identical with the question about its verification, leads us to recognize that the claim that a thing is real is a statement about lawful connections of experiences; it does *not*, however, imply this claim to be false. (There is therefore no denial of reality to physical objects in favor of sensations.)

But opponents of the view presented profess themselves by no means satisfied with this assertion. So far as I can see, they would answer as follows: 'You do, indeed, acknowledge completely the reality of the physical world, but—as we see it—only in words. You simply *call* real what we should describe as mere conceptual constructions. When *we* use the word "reality", we mean by it something quite different from you. Your definition of the real reduces it to experiences; but we mean something quite independent of all experiences. We mean something that possesses the same independence that you obviously concede only to the data, in that you reduce everything else to them, as the not-further-reducible'.

Although it would be a sufficient rebuttal to request our opponents to reflect once more upon how reality-statements are verified, and how verification is connected with *meaning*, I do in fact recognize the need to take account of the psychological attitude from which this argument springs, and therefore beg attention to the following considerations, whereby a modification of this attitude may yet, perhaps, be effected.

Let us first enquire whether, on our view, a 'content of consciousness' is credited with a reality that is denied to a physical object. We ask, therefore: does the claim that a feeling or sensation is real have a meaning different from the claim that a physical object is real? For us, this can mean only: are different types of verification involved in the two cases? The answer is: no!

To clarify this, we need to enter a little into the logical form of reality-statements. The general logical recognition that an existence-statement can be made about a datum only if it is marked out by a description, but not if it is given by an immediate indication, is also valid, of course, for the 'data of consciousness'. In the language of symbolic logic, this is expressed by the fact that an existence-claim must contain an 'operator'. In Russell's notation, for example, a reality-statement has the form $(\exists x) fx$, or in words, 'there is an $x$ that has the property $f$'. The form of words 'there is $a$', where '$a$' is supposed to be the individual name of a directly indicated object, therefore means no more than 'this here'; this form of words is meaningless, and in Russell's symbolism it cannot even be written down. We have to grasp the idea that Descartes's proposition 'I am'—or, to put it better, 'contents of consciousness exist'—is absolutely meaningless; it expresss nothing, and contains no knowledge. This is due to the fact that 'contents of consciousness' occurs in this connection as a mere *name* for the given; no characteristic is asserted, whose presence could be tested. A proposition has meaning, and is verifiable, only if I can state under what circumstances it would be true, and

under what circumstances it would be false. But how am I to describe the circumstances under which the proposition 'My contents of consciousness exist' would be false? Every attempt would lead to ridiculous absurdities, to such propositions, say, as 'It is the case that nothing is the case', or the like. Hence I am self-evidently unable to describe the circumstances that make the proposition true (just try it!). Nor is there any doubt whatever that Descartes, with his proposition, had really obtained no knowledge, and was actually no wiser than before.

No, the question about the reality of an experience has meaning only where this reality can also be meaningfully *doubted*. I can ask, for example: Is it really true that I felt joy on hearing that news? This can be verified or falsified exactly as when we ask, say: Is it true that Sirius has a companion (that this companion is real)? That I felt joy on a particular occasion can be verified, for example, by examination of other people's statements about my behaviour at the time, by my finding of a letter that I then wrote, or simply by the return to me of an exact memory of the emotion I experienced. Here, therefore, there is not the slightest difference of principle: to be real always means to stand in a definite connection with the given. Nor is it otherwise, say, with an experience that is present at this very moment. I can quite meaningfully ask, for example (in the course, say, of a physiological experiment): Do I now actually feel a pain or not? (Notice that 'pain', here, does not function as an individual name for a 'this here', but represents a conceptual term for a describable class of experiences.) Here, too, the question is answered by establishing that in conjunction with certain circumstances (experimental conditions, concentration of attention, etc.) an experience with certain describable properties occurs. Such describable properties would be, for example: similarity to an experience that has occurred under certain other circumstances; tendency to evoke certain reactions; and so on.

However we may twist and turn, it is impossible to interpret a reality-statement otherwise than as fitting into a perceptual context. It is absolutely the *same* kind of reality that we have to attribute to the data of consciousness and to physical events. Scarcely anything in the history of philosophy has created more confusion than the attempt to pick out one of the two as true 'being'. Wherever the term 'real' is intelligibly used, it has one and the same meaning.

Our opponent, perhaps, will still feel his position unshaken by what we have said, having the impression, rather, that the arguments here presented presuppose a starting-point at which he cannot, from the outset, station himself. He has to concede that the decision about the reality or unreality of anything in experience takes place, in every case, in the manner outlined, but he claims that in this way we only arrive at what Kant called *empirical* reality. It designates the area governed by the observations of daily life and of science, but beyond this boundary there lies something else, *transcendent* reality, which cannot be inferred by strict logic, and is thus no postulate of the understanding, though it is a postulate of sound *reason*. It is the only true *external world*, and this alone is at issue in the philosophical problem of the existence of the external world. The discussion thereupon abandons the question about the meaning of the term 'reality', and turns to that about the meaning of the term 'external world'.

The term 'external world' is obviously used in two different ways: firstly in the usage of daily life, and secondly as a technical term in philosophy.

Where it occurs in everyday life, it has, like the majority of expressions employed in practical affairs, an intelligibly stateable meaning. In contrast to the 'internal world', which covers memories, thoughts, dreams, wishes and feelings, the 'external world' means nothing else, here, but the world of mountains and trees, houses, animals and

men. What it means to maintain the existence of a certain object in this world, is known to every child; and it was necessary to point out that it really means absolutely nothing *more* than what the child knows. We all know how to verify the proposition, say, that 'There is a castle in the park before the town'. We perform certain acts, and if certain exactly specifiable states-of-affairs come about, then we say: 'Yes, there really is a castle there'; otherwise we say: 'That statement was an error or a lie.' And if somebody now asks us: 'But was the castle there in the night as well, when nobody saw it?' we answer: 'Undoubtedly! for it would have been impossible to build it in the period from early this morning till now, and besides, the state of the building shows that it was not only already *in situ* yesterday, but has been there for a hundred years, and hence since before we were born'. We are thus in possession of quite specific empirical criteria for whether houses and trees were also there when we were not seeing them, and whether they already existed before our birth, and will exist after our death. That is to say, the claim that these things 'exist independently of us' has a perfectly clear, testable meaning, and is obviously to be answered in the affirmative. We are very well able to distinguish such things in a stateable way from those that only occur 'subjectively', 'in dependence upon ourselves'. If, owing to an eye defect, I see, for example, a dark speck when I look at the wall opposite me, I say of it that it is there only when I look, whereas I say of the wall that it is also there when I am not looking. The verification of this difference is in fact very easy, and both claims assert precisely what is contained in these verifications and nothing more.

So if the term 'external world' is taken in the everyday sense, the question about its existence simply means: Are there, in addition to memories, wishes and ideas, also stars, clouds, plants and animals, and my own body? We have just affirmed once more that it would be utterly absurd to say no to this question. There are obviously houses and clouds and animals existing independently of us, and I have already said earlier that a thinker who denied the existence of the external world in this sense would have no claim to our attention. Instead of telling us what we mean when we speak of mountains and plants, he wishes to persuade us that there are no such things at all!

But now how about science? When it speaks of the external world, does it, unlike daily life, mean something other than things such as houses and trees? It seems to me that this is by no means the case. For atoms and electric fields, or whatever else the physicist may speak of, are precisely what houses and trees consist of, according to his teaching; the one must therefore be real in the same sense as the other. The objectivity of mountains and clouds is just exactly the same as that of protons and energies; the latter stand in no greater contrast to the 'subjectivity' of feelings, say, or hallucinations, than do the former. We have long since convinced ourselves, in fact, that the existence of even the most subtle of the 'invisible' things postulated by the scientist is verified, in principle, in exactly the same way as the reality of a tree or a star.

In order to settle the dispute about realism, it is of the greatest importance to alert the physicist to the fact that his external world is nothing else but the *nature* which also surrounds us in daily life, and is not the 'transcendent world' of the metaphysicians. The difference between the two is again quite particularly evident in the philosophy of Kant. Nature, and everything of which the physicist can and must speak, belongs, in Kant's view, to empirical reality, and the meaning of this (as already mentioned) is explained by him exactly as we have also had to do. Atoms, in Kant's system, have no transcendent reality—they are not 'things-in-themselves'. Thus the physicist cannot appeal to the Kantian philosophy; his arguments lead only to the empirical external world that we all acknowledge, not to a transcendent one; his electrons are not metaphysical entities.

Many scientists speak, nonetheless, of the necessity of having to postulate the existence of an external world as a *metaphysical* hypothesis. They never do this, indeed, within their own science (although all the necessary hypotheses of a science ought to occur *within* it), but only at the point where they leave this territory and begin to philosophize. The transcendent external world is actually something that is referred to exclusively in philosophy, never in a science or in daily life. It is simply a technical term, whose meaning we now have to inquire into.

How does the transcendent or metaphysical external world differ from the empirical one? In philosophical systems it is thought of as subsisting somehow behind the empirical world, where the word 'behind' is also supposed to indicate that this world is not *knowable* in the same sense as the empirical, that it lies beyond a boundary that divides the accessible from the inaccessible.

This distinction originally has its ground in the view formerly shared by the majority of philosophers, that to know an object requires that it be immediately given, directly experienced; knowledge is a kind of intuition, and is perfect only if the known is directly present to the knower, like a sensation or a feeling. So what cannot be immediately experienced or intuited remains, on this view, unknowable, ungraspable, transcendent, and belongs to the realm of things-in-themselves. Here, as I have elsewhere had to state on numerous occasions, we simply have a confusion of knowing with mere acquaintance or experiencing. But such a confusion is certainly not committed by modern scientists; I do not believe that any physicist considers knowledge of the electron to consist in its entering bodily, by an act of intuition, into the scientist's consciousness; he will take the view, rather, that for complete knowledge the only thing needed is for the regularity of an electron's behaviour to be so exhaustively stated that all formulae in which its properties occur in any way are totally confirmed by experience. In other words, the electron, and all physical realities likewise, are *not* unknowable things-in-themselves, and do not belong to a transcendent, metaphysical reality, if this is characterized by the fact that it embraces the unknowable.

Thus we again return to the conclusion that all the physicist's hypotheses can relate only to *empirical* reality, if by this we mean the knowable. It would in fact be a self-contradiction to wish to assume something unknowable as a hypothesis. For there must always be specific *reasons* for setting up a hypothesis, since it is, after all, supposed to fulfil a specific purpose. What is assumed in the hypothesis must therefore have the property of fulfilling this purpose, and of being precisely so constituted as to be justified by these reasons. But in virtue of this very fact certain statements are made of it, and these contain *knowledge* of it. And they contain, indeed, *complete* knowledge of it, since *only* that can be hypothetically assumed for which there are reasons in experience.

Or does the scientific 'realist' wish to characterize the talk of not immediately experienced objects as a metaphysical hypothesis for some reason other than the nonexistent one of its unknowability? To this, perhaps, he will answer 'yes'. In fact it can be seen from numerous statements in the literature, that the physicist by no means couples his claim of a transcendent world with the claim that it is unknowable; on the contrary, he (quite rightly) takes the view that the nature of extra-mental things is reflected with perfect correctness in his equations. Hence the external world of the physical realist is not that of traditional metaphysics. He employs the technical term of the philosophers, but what he designates by means of it has seemed to us to be merely the external world of everyday life, whose existence is doubted by nobody, not even the 'positivist'.

So what is this other reason that leads the 'realist' to regard his external world as a metaphysical assumption? Why does he want to distinguish it from the empirical external world that we have described? The answer to this question leads us back again to an earlier point in our argument. For the 'realistic' physicist is perfectly content with our description of the external world, except on one point: he thinks that we have not lent it enough *reality*. It is not by its unknowability or any other feature that he takes his 'external world' to differ from the empirical one; it is simply and solely by the fact that another, higher reality attaches to it. This often finds expression even in the terminology; the word 'real' is often reserved for this external world, in contrast to the merely 'ideal', 'subjective' content of consciousness, and the mere 'logical constructions' into which 'positivism' is accused of dissolving reality.

But now even the physical realist has a dim feeling that, as we know, reality is not a 'property'; hence he cannot simply pass from our empirical external world to his transcendent one by attributing to it the feature of 'reality' over and above the features that we, too, ascribe to all physical objects; yet that is how he talks, and this illegitimate leap, whereby he leaves the realm of the meaningful, would in fact be 'metaphysical', and is also felt to be such by himself.

We now have a clear view of the situation, and can judge it on the basis of the preceding considerations.

Our principle, that the truth and falsity of all statements, including those about the reality of a physical object, can be tested only in the 'given', and that *therefore* the meaning of all statements can likewise be formulated and understood only by means of the given—this principle has been wrongly construed as if it claimed or presupposed that only the given is real. Hence the 'realist' feels compelled to contradict the principle, and to set up the counterclaim, that the meaning of a reality-statement is by no means exhausted in mere assertions of the form 'Under these particular circumstances this particular experience will occur' (where these assertions, on our view, are in any case an infinite multitude); the meaning, he says, in fact lies *beyond this* in something else, which must be referred to, say, as 'independent existence', 'transcendent being' or the like, and of which our principle provides no account.

To this we ask: Well, then, *how* does one give an account of it? What do these words 'independent existence' and 'transcendent being' mean? In other words, what testable difference does it make in the world, whether an object has transcendent being or not?

Two answers are given here. The first runs: It makes a quite enormous difference. For a scientist who believes in a 'real external world' will feel and work quite differently from one who merely aims at 'describing sensations'. The former will regard the starry heaven, whose aspect recalls to him the inconceivable sublimity and size of the universe, and his own human smallness, with feelings of awe and devotion quite different from those of the latter, to whom the most distant galactic systems are but 'complexes of his own sensations' The first will be devoted to his task with an enthusiasm, and will feel in his knowing of the objective world a satisfaction, that are denied to the second, since he takes himself to be concerned only with constructions of his own.

To this first answer we have this to say: If, in the behaviour of two thinkers, there should anywhere occur a difference such as has here been described—and it would in fact involve an observable state-of-affairs—and were we to insist upon so expressing this difference as to say that the first believes in a real external world, and the other not—well, even so, the *meaning* of our assertion still consists solely in what we observe in the behavior of the two. That is to say, the words 'absolute reality', or

'transcendent being', or whatever other terms we may use for it, now *signify* absolutely nothing else but certain states of feeling which arise in the two whenever they contemplate the universe, or make reality-statements, or philosophize. The fact of the matter is, that employment of the words 'independent existence', 'transcendent reality' and so on, is simply and solely the expression of a feeling, a psychological attitude of the speaker (which may in the end, moreover, apply to all metaphysical propositions). If someone assures us that there is a real external world in the supra-empirical sense of the term, he thinks, no doubt, that he has thereby conveyed a truth about the world; but in actuality his words express a quite different state-of-affairs, namely the mere presence of certain feelings, which provoke him to specific reactions of a verbal or other nature.

If the self-evident still needs to be specially dwelt on, I should like to underline—but in that case with maximum emphasis, and with stress upon the *seriousness* of what I am saying—that the nonmetaphysician does not differ from the metaphysician by the fact, say, that he lacks those feelings to which the other gives expression by way of the propositions of a 'realistic' philosophy, but only by the fact that he has recognized that these propositions by no means have the meaning that they seem to have, and are therefore to be avoided. He will give expression to the same feelings in a *different* way. In other words, this confrontation of the two types of thinker, set up in the 'realist's' first answer, was misleading and erroneous. If anyone is so unfortunate as not to feel the sublimity of the starry heaven, then the blame lies on something other than a logical analysis of the concepts of reality and the external world. To suppose that the opponent of metaphysics is incapable, say, of justly estimating the greatness of Copernicus, because in a certain sense the Ptolemaic view reflects the empirical situation just as well as the Copernican, seems to me no less strange than to believe that the 'positivist' cannot be a good father to his family, because according to his theory his children are merely complexes of his own sensations, and it is therefore senseless to make provision for their welfare after his death. No, the world of the non-metaphysician is the same world as that of everybody else; it lacks nothing that is needed in order to make meaningful all the statements of science and all the actions of daily life. He merely refuses to add meaningless statements to his description of the world.

We come to the *second* answer that can be given to the question about the meaning of the claim that there is a transcendent reality. It simply consists in admitting that it makes absolutely no difference for experience whether we postulate something else existing behind the empirical world or not; metaphysical realism cannot therefore be actually tested or verified. Thus it cannot be further stated what is meant by this claim; yet something *is* meant thereby, and the meaning can also be understood without verification.

This is nothing else but the view criticized in the previous Section, that the meaning of a proposition has nothing to do with its verification, and it only remains for us to repeat once more our earlier general criticism, as applied to this particular Case. We must reply, therefore: Well now! You are giving the name 'existence' or 'reality' here to something that is utterly inexpressible and cannot be explained or stated in any fashion. You think, nonetheless, that these words have a meaning. As to that, we shall not quarrel with you. But this much is certain: by the admission just made, this meaning cannot in any way become manifest, cannot be expressed by any oral or written communication, or by any gesture or act. For if this were possible, a testable empirical situation would exist; there would be something *different* in the world, if the

proposition 'There is a transcendent world' were true, from if it were false. This differentness would then signify the meaning of the words 'real external world', and hence it would be an empirical meaning—that is, this real external world would again be merely the empirical world which we, too, acknowledge, like everyone else. Even to speak, merely, of another world, is logically impossible. There can be no discussion about it, for a nonverifiable existence cannot enter as meaning into any possible proposition. Anyone who still believes in such a thing—or imagines he believes—can only do so in silence. *There are arguments only for something that can be said.*

The results of our discussion can be summarized as follows:

1. The principle, that the meaning of every proposition is exhaustively determined by its verification in the given, seems to me a legitimate, unassailable core of the 'positivist' schools of thought.

   But within these schools it has seldom come clearly to light, and has often been mingled with so many untenable principles, that a logical clean-up is necessary. If we want to call the result of this clean-up 'positivism', which might well be justified on historical grounds, we should have, perhaps, to affix a differentiating adjective: the term[4] 'logical' or 'logistic positivism' is often used; otherwise the expression 'consistent empiricism' has seemed to me appropriate.
2. This principle does not mean, nor does it follow from it, that only the given is real; such a claim would actually be meaningless.
3. Consistent empiricism, therefore, does *not* deny, either, the existence of an external world; it merely points out the empirical meaning of this existence-claim.
4. It is not an 'as if theory'. It does not say, for example, that everything behaves as if there were physical independent bodies; on the contrary, for it, too, everything is real that the nonphilosophizing scientist declares to be real. The subject matter of physics does not consist of sensations, but of laws. The formulation employed by some positivists, that bodies 'are mere complexes of sensations' is therefore to be rejected. The only correct view is that propositions about bodies can be transformed into propositions of like meaning about the regularity of occurrence of sensations.[5]
5. Logical positivism and realism are therefore not opposed; anyone who acknowledges our principle must actually be an empirical realist.
6. There is opposition only between consistent empiricism and the metaphysician, and it is directed as much against the realist as the idealist (the former is designated in our discussion as a 'realist', in quotation-marks).
7. The denial of the existence of a transcendent external world would be just as much a metaphysical proposition as its assertion; the consistent empiricist does not therefore deny the transcendent, but declares both its denial and its affimmation to be equally devoid of meaning.

This last distinction is of the greatest importance. I am convinced that the main resistances to our viewpoint stem from the fact that the difference between the falsity and the meaninglessness of a proposition is not heeded. The proposition 'Talk of a metaphysical external world is meaningless' does *not* say 'There is no metaphysical external world', but something *toto coelo* different. The empiricist does not say to the metaphysician: 'Your words assert something false', but 'Your words assert nothing at all!' He does not contradict the metaphysician, but says: 'I do not understand you'.

*Notes*

1. [E. Laas, *Idealismus und Positivismus. Eine kritische Auseinandersetzung,* Berlin 1879–1881.]
2. M. Planck, *Positivismus und reale Aussenwelt,* Leipzig 1931, p. 14.
3. Cf. *ibid.,* p. 11.
4. Cf. the article by A. E. Blumberg and H. Feigl ["Logical Positivism"] in *The Journal of Philosophy* **28** (1931); see also E. Kaila ['Der logistische Neupositinsmus. Eine kritische Studie'] in *Annales Universitatis Aboensis* **13** (1930), and A. Petzäll ["Logistischer Positivismus"] in *Göreborgs Högskolas Arsskrift* **37** (1931).
5. On this, as on the content of the whole essay, cf. the article by H. Cornelius ['Zur Kritik der wissenschaftlichen Grundbegriffe'] in *Erkenntnis* **2** (1931). The formulations there are admittedly not free from objection. Cf. also the outstanding discussion by Philipp Frank in chapter X of his book *Das Kausalgesetz und seine Grenzen,* Wien 1932, and Rudolf Carnap, *Scheinprobleme in der Philosophie,* Leipzig and Berlin 1928.